Volume 94, Number 6, November–December 1989
Journal of Research of the National Institute of Standards and Technology

Subject Index to Volume 94

Numbers in parenthesis after the page number are the issue numbers

No. 1 January-February
No. 2 March-April
No. 3 May-June
No. 4 July-August
No. 5 September-October
No. 6 November-December

A

absolute ratio ..... 347(6), 357(6)
analytical chemistry ..... 25(1)
assay ..... 347(6)
atomic weight ..... 347(6), 357(6)
automation ..... 311(5)

B

becquerel ..... 363(6)
Bergman kernel ..... 117(2)
biological material ..... 215(4)
biotechnology ..... 59(1)
botanical material ..... 215(4)

C

CAD ..... 281(5)
calibration ..... 179(3)
capacitors ..... 179(3)
CBRIS ..... 281(5)
CCE ..... 95(2)
^{109}Cd ..... 363(6)
ceramics ..... 37(1), 147(3)
characteristic branching ratios of ionic substructures ..... 281(5)
chemical thermodynamics data ..... 21(1)
chemical thermodynamics ..... 21(1)
CIPM ..... 95(2)
coaxial air line ..... 117(2)
collisionally-activated dissociation ..... 281(5)
compact domains ..... 65(1)
comparative modeling ..... 79(1)
comparisons of activity measurements ... 363(6)
components of variance (within-and between-groups) ..... 197(3)
computer systems ..... 59(1)
computer communication networks ..... 59(1)
computerized database ..... 37(1)
computers ..... 25(1), 311(5)
conformal mapping ..... 117(2)
consensus values ..... 197(3)
Consultative Committee on Electricity .. 95(2)
Consultative Committee on Standards for the Measurement of Ionizing Radiations ..... 363(6)
convergence proof ..... 197(3)
copper oxides ..... 147(3)
cotinine ..... 305(5)
cotinine perchlorate ..... 305(5)
coupling ..... 117(2)
cryogenic engineering ..... 147(3)
crystal structure ..... 147(3)
crystallographic database ..... 49(1)
CRYSTDAT ..... 9(1), 49(1)
cubic splines ..... 117(2)

D

data banks ..... 85(1)
data files ..... 21(1)
database ..... 25(1), 281(5)
database management systems ..... 59(1)
delay ..... 311(5)
diffusion coefficients ..... 105(2)
digital systems ..... 311(5)
dimethylglyoxime ..... 347(6)
dissipation factor ..... 179(3)

E

electric power ..... 179(3)
electrical standards ..... 179(3)
electron diffraction ..... 15(1)
electronic structure ..... 147(3)
electrostatics ..... 79(1)
energy levels ..... 221(4)
enthalpy ..... 21(1)
error sources ..... 117(2)
evaluated data ..... 21(1)
evaluation ..... 25(1)

F

fluids ..... 113(2), 259(4)
frequency ..... 311(5)

G

GC-MS ..... 305(5)

H

heat capacity ..... 21(1)
α helix ..... 65(1)
high T_c superconductors ..... 49(1)
hydrophobicity ..... 79(1)

I

^{125}I ..... 363(6)
identification ..... 15(1)
industrial use of numeric databases ..... 9(1)
infrared spectrum ..... 25(1)
International Committee of Weights and Measures ..... 95(2)
International Reference System for radionuclides ..... 363(6)
International System of Units ..... 95(2)
iodine ..... 215(4)
ion-molecule kinetics ..... 281(5)
isotopic abundance ..... 347(6), 357(6)

J

JANAF Thermochemical Tables ..... 21(1)
Josephson effect ..... 95(2)
Josephson frequency-to-voltage quotient . 95(2)

L

laser cooling ..... 373(6)
lattice matching ..... 9(1)

M

manometer ..... 343(6)
mass spectrometry ..... 215(4), 347(6), 357(6)
mass spectrum ..... 25(1)
material properties ..... 37(1)
materials science ..... 9(1), 147(3)
measurement contour ..... 117(2)
measurement precision ..... 117(2)
measurement protocol ..... 281(5)
measurement science ..... 147(3)
medical informatics ..... 59(1)
modeling ..... 65(1)
molecular biology ..... 59(1), 85(1)
molecular graphics ..... 85(1)
MS/MS ..... 281(5)

N

National Library of Medicine (U.S.) ..... 59(1)
neutron scattering ..... 259(4)
nickel ..... 347(6), 357(6)
NIST services ..... 179(3)
NIST-EPA International Round Robin .. 281(5)
nuclear magnetic resonance ..... 25(1)
numeric databases ..... 9(1), 15(1), 21(1)

O

ohm ..... 95(2)
on-line searching ..... 9(1)
optical molasses ..... 373(6)
overview ..... 147(3)

P

parameters ..... 221(4)
passive smoking ..... 305(5)
periodic surface profile ..... 367(6)
periodic waveform ..... 367(6)
perovskites ..... 147(3)
phase characterization ..... 15(1)
phase transitions ..... 21(1)
piston gage ..... 343(6)
platinum ..... 113(2)
prediction of ferroelectricity ..... 9(1)
pressure ..... 113(2), 343(6)
pressure measurement ..... 343(6)
pressure metrology ..... 343(6)
pressure standards ..... 343(6)
principal mode ..... 117(2)
propagation delay ..... 311(5)
protein structures ..... 65(1), 79(1), 85(1)

Q

quantized Hall resistance ..... 95(2)
quantum Hall effect ..... 95(2)

R

radioactivity standards ..... 363(6)
random error ..... 367(6)
resistance ..... 113(2)

rheology ..... 259(4)
root-mean-square value ..... 367(6)

S

SANS ..... 259(4)
scattering parameters ..... 117(2)
^{75}Se ..... 363(6)
sequence alignment ..... 79(1)
sequence profiles ..... 65(1)
shear ..... 259(4)
SI ..... 95(2)
side stream smoke ..... 305(5)
skin effect ..... 117(2)
spectra ..... 221(4)
spectral library ..... 281(5)
SRM 986 ..... 357(6)
Standard Reference Materials ... 215(4), 357(6)
standardization ..... 281(5)
standards ..... 305(5)
Structural Ceramics Database ..... 37(1)
structure prediction ..... 65(1), 85(1)
superconductivity ..... 9(1), 147(3)
supercritical fluid chromatography ..... 105(2)
surface roughness ..... 117(2), 367(6)
synchronization, time ..... 311(5)

T

tandem mass spectrometers ..... 281(5)
Taylor series ..... 197(3)
telegraphist equations ..... 117(2)
telephone ..... 311(5)
templates ..... 65(1)
terrestrial samples ..... 357(6)
thermal conductivity ..... 113(2)
tobacco ..... 305(5)
trace analysis ..... 215(4)
transient hot-wire ..... 113(2)
tungsten ..... 221(4)
β turn ..... 65(1)

U

uncertainty ..... 367(6)
user-friendly ..... 37(1)

V

vapor cell ..... 373(6)
vapor pressure ..... 21(1)
volt ..... 95(2)
voltage transformers ..... 179(3)

W

wavelengths ..... 221(4)
weighted least squares regression ..... 197(3)
weighted average ..... 197(3)

X

XQQ instruments (QQQ, BEQQ, etc.) ... 281(5)

Volume 94, Number 6, November–December 1989
Journal of Research of the National Institute of Standards and Technology

Author Index to Volume 94

Numbers in parenthesis after the volume number are the issue numbers

No. 1 January-February
No. 2 March-April
No. 3 May-June
No. 4 July-August
No. 5 September-October
No. 6 November-December

A

Allan, D. W.

The NIST Automated Computer Time Service. Levine, J., Weiss, M., Davis, D. D., Allan, D. W., and Sullivan, D. B. **94**(*5*), 311 (1989).

Anderson, W. E.

Calibration of Voltage Transformers and High-Voltage Capacitors at NIST. Anderson, W. E. **94**(*3*), 179 (1989).

B

Barnes, I. L.

Absolute Isotopic Abundance Ratios and Atomic Weight of a Reference Sample of Nickel. Gramlich, J. W., Machlan, L. A. Barnes, I. L., and Paulsen, P. J. **94**(*6*), 347 (1989).

The Absolute Isotopic Composition and Atomic Weight of Terrestrial Nickel. Gramlich, J. W., Beary, E. S. Machlan, L. A., and Barnes, I. L. **94**(*6*), 357 (1989).

Bean, V. E.

The Reduction of Uncertainties for Absolute Piston Gage Pressure Measurements in the Atmospheric Pressure Range. Welch, B. E., Edsinger, R. E., Bean, V. E., and Ehrlich, C. D. **94**(*6*), 343 (1989).

Beary, E. S.

The Absolute Isotopic Composition and Atomic Weight of Terrestrial Nickel. Gramlich, J. W., Beary, E. S. Machlan, L. A., and Barnes, I. L. **94**(*6*), 357 (1989).

Bennett, L. H.

A Brief Review of Recent Superconductivity Research at NIST. Lundy, D. R., Swartzendruber, L. J., and Bennett, L. H. **94**(*3*), 147 (1989).

Bruno, T. J.

A Supercritical Fluid Chromatograph for Physicochemical Studies. Bruno, T. J. **94**(*3*), 105 (1989).

Byrd, G. D.

A Cotinine in Freeze-Dried Urine Reference Material. Sander, L. C., and Byrd, G. D. **94**(*5*), 305 (1989).

C

Cabeza, M. I.

The Spectrum of Doubly Ionized Tungsten (W III). Iglesias, L., Cabeza, M. I., Rico, F. R., Garcia-Riquelme, O., and Kaufman, V. **94**(*4*), 221 (1989).

Carr, M. J.

NIST/Sandia/ICDD Electron Diffraction Database: A Database for Phase Identification by Electron Diffraction. Carr, M. J., Chambers, W. F., Melgaard, D., Himes, V. L., Stalick, J. K., and Mighell, A. D. **94**(*1*), 15 (1989).

Chambers, W. F.

NIST/Sandia/ICDD Electron Diffraction Database: A Database for Phase Identification by Electron Diffraction. Carr, M. J., Chambers, W. F., Melgaard, D., Himes, V. L., Stalick, J. K., and Mighell, A. D. **94**(*1*), 15 (1989).

Chase, M. W.

Numeric Databases in Chemical Thermodynamics at the National Institute of Standards and Technology. Chase, M. W. **94**(*1*), 21 (1989).

D

Davis, D. D.

The NIST Automated Computer Time Service. Levine, J., Weiss, M., Davis, D. D., Allan, D. W., and Sullivan, D. B. **94**(*5*), 311 (1989).

E

Edsinger, R. E.

The Reduction of Uncertainties for Absolute Piston Gage Pressure Measurements in the Atmospheric Pressure Range. Welch, B. E., Edsinger, R. E., Bean, V. E., and Ehrlich, C. D. **94**(*6*), 343 (1989).

Ehrlich, C. D.

The Reduction of Uncertainties for Absolute Piston Gage Pressure Measurements in the Atmospheric Pressure Range. Welch, B. E., Edsinger, R. E., Bean, V. E., and Ehrlich, C. D. **94**(*6*), 343 (1989).

G

Garcia-Riquelme, O.

The Spectrum of Doubly Ionized Tungsten (W III). Iglesias, L., Cabeza, M. I., Rico, F. R., Garcia-Riquelme, O., and Kaufman, V. **94**(*4*), 221 (1989).

Gramlich, J. W.

Determination of Trace Level Iodine in Biological and Botanical Reference Materials by Isotope Dilution Mass Spectrometry. Gramlich, J. W., and Murphy, T. J. **94**(*4*), 215 (1989).

Absolute Isotopic Abundance Ratios and Atomic Weight of a Reference Sample of Nickel. Gramlich, J. W., Machlan, L. A. Barnes, I. L., and Paulsen, P. J. **94**(*4*), 347 (1989).

The Absolute Isotopic Composition and Atomic Weight of Terrestrial Nickel. Gramlich, J. W., Beary, E. S. Machlan, L. A., and Barnes, I. L. **94**(*4*), 357 (1989).

H

Himes, V. L.

NIST/Sandia/ICDD Electron Diffraction Database: A Database for Phase Identification by Electron Diffraction. Carr, M. J., Chambers, W. F., Melgaard, D., Himes, V. L., Stalick, J. K., and Mighell, A. D. **94**(*1*), 15 (1989).

Holt, D. R.

Scattering Parameters Representing Imperfections in Precision Coaxial Air Lines. Holt, D. R. **94**(*2*), 117 (1989).

Erratum: Scattering Parameters Representing Imperfections in Precision Coaxial Air Lines. Holt, D. R. **94**(*5*), 323 (1989).

Hoppes, D. D.

Special Report on Standards for Radioactivity—Report on the 1989 Meeting of the Radionuclide Measurements Section of the Consultative Committee on Standards for the Measurement of Ionizing Radiations. Hoppes, D. D. **94**(*6*), 363 (1989).

Hubbard, C. R.

The Structural Ceramics Database: Technical Foundations. Munro, R. G., Hwang, F. Y., and Hubbard, C. R. **94**(*1*), 37 (1989).

Hwang, F. Y.

The Structural Ceramics Database: Technical Foundations. Munro, R. G., Hwang, F. Y., and Hubbard, C. R. **94**(*1*), 37 (1989).

I

Iglesias, L.

The Spectrum of Doubly Ionized Tungsten (W III). Iglesias, L., Cabeza, M. I., Rico, F. R., Garcia-Riquelme, O., and Kaufman, V. **94**(*4*), 221 (1989).

K

Kaufman, V.

The Spectrum of Doubly Ionized Tungsten (W III). Iglesias, L., Cabeza, M. I., Rico, F. R., Garcia-Riquelme, O., and Kaufman, V. **94**(*4*), 221 (1989).

L

Lesk, A. M.

The Computational Analysis of Protein Structures: Sources, Methods, Systems, and Results. Lesk, A. M., and Tramontano, A. **94**(*1*), 85 (1989).

Levine, J.

The NIST Automated Computer Time Service. Levine, J., Weiss, M., Davis, D. D., Allan, D. W., and Sullivan, D. B. **94**(*5*), 311 (1989).

Lias, S. G.

Numeric Databases for Chemical Analysis. Lias, S. G. **94**(*1*), 25 (1989).

Lundy, D. R.

A Brief Review of Recent Superconductivity Research at NIST. Lundy, D. R., Swartzendruber, L. J., and Bennett, L. H. **94**(*3*), 147 (1989).

M

Machlan, L. A.

Absolute Isotopic Abundance Ratios and Atomic Weight of a Reference Sample of Nickel. Gramlich, J. W., Machlan, L. A. Barnes, I. L., and Paulsen, P. J. **94**(*6*), 347 (1989).

The Absolute Isotopic Composition and Atomic Weight of Terrestrial Nickel. Gramlich, J. W., Beary, E. S. Machlan, L. A., and Barnes, I. L. **94**(*6*), 357 (1989).

Mandel, J.

Consensus Values, Regressions, and Weighting Factors. Paule, R. C., and Mandel, J. **94**(*3*), 197 (1989).

Martinez, R. I.

Instrument-Independent MS/MS Database for XQQ Instruments: A Kinetics-Based Measurement Protocol. Martinez, R. I. **94**(*5*), 281 (1989).

Matula, R. A.

The Importance of Numeric Databases to Materials Science. Matula, R. A. **94**(*1*), 9 (1989).

Masys, D. R.

New Directions in Bioinformatics. Masys, D. R. **94**(*1*), 59 (1989).

Melgaard, D.

NIST/Sandia/ICDD Electron Diffraction Database: A Database for Phase Identification by Electron Diffraction. Carr, M. J., Chambers, W. F., Melgaard, D., Himes, V. L., Stalick, J. K., and Mighell, A. D. **94**(*1*), 15 (1989).

Migdall, A. L.

A Search for Optical Molasses in a Vapor Cell: General Analysis and Experimental Attempt. Migdall, A. L. **94**(*6*), 373 (1989).

Mighell, A. D.

NIST/Sandia/ICDD Electron Diffraction Database: A Database for Phase Identification by Electron Diffraction. Carr, M. J., Chambers, W. F., Melgaard, D., Himes, V. L., Stalick, J. K., and Mighell, A. D. **94**(*1*), 15 (1989).

Moult, J.

Comparative Modeling of Protein Structure—Progress and Prospects. Moult, J. **94**(*1*), 79 (1989).

Munro, R. G.

The Structural Ceramics Database: Technical Foundations. Munro, R. G., Hwang, F. Y., and Hubbard, C. R. **94**(*1*), 37 (1989).

Murphy, T. J.

Determination of Trace Level Iodine in Biological and Botanical Reference Materials by Isotope Dilution Mass Spectrometry. Gramlich, J. W., and Murphy, T. J. **94**(*4*), 215 (1989).

P

Paule, R. C.

Consensus Values, Regressions, and Weighting Factors. Paule, R. C., and Mandel, J. **94**(*3*), 197 (1989).

Paulsen, P. J.

Absolute Isotopic Abundance Ratios and Atomic Weight of a Reference Sample of Nickel. Gramlich, J. W., Machlan, L. A. Barnes, I. L., and Paulsen, P. J. **94**(*6*), 347 (1989).

Perkins, R. A.

Relation Between Wire Resistance and Fluid Pressure in the Transient Hot-Wire Method. Roder, H. M., and Perkins, R. A. **94**(*2*), 113 (1989).

R

Reid, L. S.

The Use of Structural Templates in Protein Backbone Modeling. Reid, L. S. **94**(*1*), 65 (1989).

Rico, F. R.

The Spectrum of Doubly Ionized Tungsten (W III). Iglesias, L., Cabeza, M. I., Rico, F. R., Garcia-Riquelme, O., and Kaufman, V. **94**(*4*), 221 (1989).

Roder, H. M.

Relation Between Wire Resistance and Fluid Pressure in the Transient Hot-Wire Method. Roder, H. M., and Perkins, R. A. **94**(*2*), 113 (1989).

S

Sander, L. C.

A Cotinine in Freeze-Dried Urine Reference Material. Sander, L. C., and Byrd, G. D. **94**(*5*), 305 (1989).

Siegrist, T.

Applications of the Crystallographic Search and Analysis System CRYSTDAT in Materials Science. Siegrist, T. **94**(*1*), 49 (1989).

Stalick, J. K.

NIST/Sandia/ICDD Electron Diffraction Database: A Database for Phase Identification by Electron Diffraction. Carr, M. J., Chambers, W. F., Melgaard, D., Himes, V. L., Stalick, J. K., and Mighell, A. D. **94**(*1*), 15 (1989).

Straty, G. C.

Apparatus for Neutron Scattering Measurements on Sheared Fluids, Straty, G. C. **94**(*4*), 259 (1989).

Sullivan, D. B.

The NIST Automated Computer Time Service. Levine, J.,Weiss, M., Davis, D. D., Allan, D. W., and Sullivan, D. B. **94**(*5*), 311 (1989).

Swartzendruber, L. J.

A Brief Review of Recent Superconductivity Research at NIST. Lundy, D. R., Swartzendruber, L. J., and Bennett, L. H. **94**(*3*), 147 (1989).

T

Taylor, B. N.

Special Report on Electrical Standards—New Internationally Adopted Reference Standards of Voltage and Resistance. Taylor, B. N. **94**(*2*), 95 (1989).

Teague, E. C.

On Measuring the Root-Mean-Square Value of a Finite Record Length Periodic Waveform. Teague, E. C. **94**(*6*), 367 (1989).

Tramontano, A.

The Computational Analysis of Protein Structures: Sources, Methods, Systems, and Results. Lesk, A. M., and Tramontano, A. **94**(*1*), 85 (1989).

W

Weiss, M.

The NIST Automated Computer Time Service. Levine, J., Weiss, M., Davis, D. D., Allan, D. W., and Sullivan, D. B. **94**(*5*), 311 (1989).

Welch, B. E.

The Reduction of Uncertainties for Absolute Piston Gage Pressure Measurements in the Atmospheric Pressure Range. Welch, B. E., Edsinger, R. E., Bean, V. E., and Ehrlich, C. D. **94**(*6*), 343 (1989).